

the result of paralysis, peritonitis, and irritative fever combined. No case is known in which trichiniasis, after having declared itself, became arrested. All persons affected have either died, or are in such a state of prostration that their death is very probable.

"Most educated people in Germany have, in consequence of the Hettstädt tragedy, adopted the law of Moses, and avoid pork in any form. To some of the large pig-breeders in Westphalia, who keep as many as two thousand pigs, the sinking of the price of pork has been a ruinous—at the least, a serious—loss. In the dining-rooms of the hotels in the neighbourhood of Hettstädt, notices are hung up announcing that pork will not be served in any form in these establishments. To counteract this panic, the farmers' club of the Hettstädt district gave a dinner at which no other meat but pork was eaten. But it has had no appreciable effect. The raw ham and sausages of Germany are doomed to extinction. The smoked and fried sausages must necessarily be avoided.

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"In the South of Germany, some people now say that the Hungarian pigs are most frequently affected with trichinæ. This rumour, like the famous pork dinner of the farmers' club, may, however, have been set up with the intention of quieting apprehension about the native pigs. We have already mentioned the accident which befell the crew of a merchant vessel. They shipped a pig at Valparaiso, and killed it a few days before their arrival at Hamburg. Most of the sailors ate of the pork in one form or another. Several were affected with trichinæ and died. Of those whose fate could be inquired into, one only seems to have escaped the parasites. Another outbreak in Saxony has carried away twelve persons. A fourth wholesale poisoning by trichinæ is just reported from Offenbach, the Birmingham of Hesse-Darmstadt. Of upwards of twenty persons infected, three had already died when our correspondent's letter left. Numerous sporadic cases of fever, and epidemics of inscrutable peculiarity, but referred to an anomalous type of fever, are now claimed by medical authors, and with much show of reason, to have been outbreaks of trichiniasis, or flesh-worm disease. Several German physicians experimentalized with a view of finding a cure for this terrible disorder. Professor Eekhardt at Giessen, we are told, has obtained permission to try the disease and supposed remedies upon a murderer under sentence of death. We have not been told whether his reward in case of success is to be a commutation of his capital sentence; but should hope this to be the case. The experiment, even if it should not have the romantic character indicated, will probably teach some curious details of the life of these parasites. Almost everywhere, the commonest rules of cleanliness are disregarded in the rearing of pigs. Yet pigs are naturally clean animals, avoiding, like dogs and cats, all contact with ordure. Though they burrow in the earth, and in summer wallow in the mud, they abhor the heaps of excrements mixed with straw in and upon which they are frequently kept. A due regard to cleanliness will prevent trichinæ in the pig. In wild boars, of which many are eaten in the country round the Hartz Mountains, trichinæ has never been found. Neither has it been met with in sheep, oxen, or horses. Beef is the safest of all descriptions of meat, as no parasites have ever been discovered in it. They have also never been found in the blood, brain, or heart, of those animals in whose striated muscles they love to reside."

12. *Hæmaturia at the Cape of Good Hope due to the presence of Parasites.*—Dr. JOHN HARLEY read before the Royal Medical and Chirurgical Society (Jan. 26, 1864) a very interesting account of some cases of hæmaturia due to the presence of parasites belonging to the genus *Distomum* or *Gynæcephorus*.

In the beginning of October last, a gentleman, resident in the Cape, consulted the author about a slight hæmaturia which he had had for some years. After micturition a little blood, never exceeding a teaspoonful, or some dark "veins," appeared with the last half ounce of urine. The urine itself was never bloody. Sometimes the "veins" would block up the urethra, and cause obstruction for a few minutes. He had an occasional twinge of smart pain in the loins. These were all the symptoms that ever appeared in connection with the urinary apparatus. He said great numbers of people of both sexes were affected in pre-

cisely the same way in certain parts of the Cape. While awaiting a sample of his urine, Dr. Harley made inquiries amongst his Cape friends and acquaintances; and, as the result corroborated his patient's statements, he was now satisfied of the existence of endemic hæmaturia in Nitenhage and Port Elizabeth, and it remained for him to ascertain the cause. In the various samples of urine sent to him by his patient, he invariably detected the eggs of an entozoon; and in one specimen he had the good fortune to discover the perfect embryo after its escape from the eggshell, under the form of a minute, ciliated animalcula. From its anatomical characters and developmental changes he was led to refer the parasite to the *Trematode* class of worms, and to the family *Distomum*. Of the five species of this genus which inhabit man, it had no relation with three. *Distomum heterophyes* presented some points of resemblance, viz.: in the size and conformation of the alimentary canal, if he (Dr. Harley) might be allowed to compare it with an organ he met with in one sample of his own, and which he supposed to be the intestinal canal of the adult parasite. But the animal which it seemed to most nearly resemble, in the outward form of the eggs as well as in the symptoms of the disease it produces, was the *Distomum hæmatobium*. This parasite, according to Billharz and Griesinger, was very common in Egypt, and inhabited all parts of the urinary apparatus. But since the parts he had described differed in several respects from the corresponding parts of the *hæmatobium*, and since, from want of recorded information respecting the corresponding parts of *D. heterophyes*, he could not compare them with these, he was obliged to comprehend them under a new species, which he would call *D. capense*. Having finished his observations of this case, he was strongly persuaded that the hæmaturia of the Cape was due to the parasite, the early stage of whose development he had been able to observe; but still, as its presence in a single case might be nothing more than a coincidence, he felt that more extended observations were needed to prove that this was the constant cause of the local disease in question. With singular good fortune he had the pleasure of an introduction to Mr. Dunstrovile, Surgeon to the Port Elizabeth Infirmary, and who, having practised for twenty-seven years in the Cape of Good Hope—which was one of the two places in which he (Dr. Harley) found the hæmaturia to be endemic—was quite familiar with the disease, the cause of which, however, from want of leisure and means of observation, had never been ascertained. Mr. Dunstrovile's two sons, in common with most other young men, suffered from the disease, but considered themselves to be now free from it. At the author's request, Mr. Dunstrovile kindly supplied him with samples of their urine, and he (Dr. Harley) was at once enabled to demonstrate to Mr. Dunstrovile the existence of the characteristic eggs of the parasite in question in the secretion from both. Having thus demonstrated the existence of the same parasite in three individuals suffering or having suffered from the hæmaturia endemic in some parts of the Cape, Dr. Harley concluded that the animal was the constant cause of the disease.

Dr. COBBOLD remarked that no person who had previously familiarized himself with the appearances presented by the eggs of the various distomes could doubt for a moment that Dr. John Harley's illustrations represented the ova of the so-called *Distoma hæmatobium*. In short, the symptoms, pathological products, eggs, and embryos described by Dr. Harley, all tended to show that this hæmaturia of the Cape was identical with the well-known Egyptian malady. Dr. Harley's discovery was, however, a most important one in relation to the geographical distribution and prevalence of entozootic diseases; for the author had now demonstrated, in a most satisfactory and able manner, that the helminthiasis in question was not confined to Egypt, as had hitherto been supposed, but was more or less prevalent in Southern Africa and in the Mauritius. Speaking zoologically, this parasite was not a true distome, as it represented the type of a distinct genus, to which Diesing, of Vienna, gave the name of *Gymnecophorus*; Weinland, of Frankfort, had called *Schistosoma*; Moquin-Tandon had denominated *Thecosoma*; and himself had previously entitled *Billharzia*, after the name of the original discoverer, Dr. Billharz, of Cairo. He (Dr. Cobbold) had discovered this so-called *Distoma hæmatobium* in the portal blood of an African monkey (*Cercopithecus fuliginosus*) six months before Diesing had

communicated his paper to the Vienna Academy, and, therefore, he hoped Dr. Harley (in concert with Weinland and others) would retain the generic name *Bilharzia*, which had the priority. At all events, this was not a new species of fluke, and, therefore, the name *Distoma capense* could not stand. But Dr. Harley's discovery was none the less important on this account. It was quite clear to him (Dr. Cobbold) that our fellow men at the Cape, in the Mauritius, on the banks of the Nile—and also, if you please, our friends, the monkeys—obtained this parasite by swallowing the “intermediate bearers” of the *Bilharzia*. These “bearers” or “hosts” were small mollusks or aquatic animals, inhabiting the African rivers. They contained the higher larval states of this parasite, the larvæ being introduced into the human body by drinking the African waters unfiltered.—*Med. Times and Gaz.*, Feb. 6, 1864.

13. *Extensive Development of Cysticerci in the Human Body.*—Pierre Massot, aged 77, was admitted into the Hôtel-Dieu at Lyons in November, 1862, with pulmonary catarrh and general weakness. On February 9th, 1863, he broke the neck of the left thigh-bone, and was consequently removed into the surgical wards, under M. DELORE, where he gradually became weaker, and died on April 16th. M. Delore had noticed, during the man's life, a number of small tumours on the chest, along the arms, on the elbows, and in the armpits. The lower limbs were very cedematous, so that the presence of any tumours in this situation could not be ascertained. The swellings were subcutaneous, and were not adherent to the skin nor to subjacent parts. Some of these seemed to be united by fibro-cellular bands, as they were easily moved together. The skin over them was unaltered; they were of the size of haricot-beans, very hard, and presented no trace of fluctuation. It was thought that they were of fibro-plastic character.

Thirty-hours after the man's death, the tumours were examined by MM. Delore and Bertholus, and were recognized to be due to the presence of cysticerci. Several cysticerci were found in the subcutaneous tissue of the conjunctivæ. The muscles were pale and easily torn; all those of the trunk and limbs contained numerous cysticerci; in the diaphragm there was one nearly as large as an almond. It was estimated that the subcutaneous conjunctival tissue and the subaponeurotic and intermuscular tissue contained about 2,000 of these bodies. They occupied principally the points of insertion of the muscles; their longest diameter lay parallel with the fibres, which they separated without destroying them; they were also lodged in the intermuscular spaces. No cysticerci were contained in the bones. The head of the thigh-bone was broken outside the capsule, and the great trochanter was also detached. Union had not taken place. There were no cysticerci in the eyes; nor at the base of the tongue, where they are always present in measly pigs (up to the present time, only one case of cysticerci in the human tongue has been noticed; it is related by Rudolphi). The liver, spleen, and kidneys were quite healthy; the latter presented numerous cysts on their surface. The pancreas contained one cysticercus. The mesentery was literally crammed with them. The parotid glands contained several. Three or four were found in the sides of the larynx. There were sixteen on the surface and in the tissue of the lungs. One was placed superficially on the anterior wall of the heart. The intestines were carefully washed and examined; but no tæniæ nor worms of any kind were found. In the nervous centres, 111 cysticerci were found; viz., 22 in the membranes, 84 in the cerebrum, 4 in the cerebellum, and 1 in the medulla oblongata. None were present in the spinal cord. On the surface of the brain, a rather large number of cysticerci had formed a small cavity in the substance of the convolutions; others were seen through a thin layer of cerebral substance. The ventricles, choroid plexus, and optic thalami, contained a considerable number. The brain was soft and diffuent.

An examination of the parasites showed that the vesicles varied much in size, and that they contained scolices having a double range of hooklets varying from thirty to thirty-four in number.

Very little information could be obtained as to the antecedent history of Pierre Massot. As far as could be ascertained, he was a beggar, led a wandering life, and was frequently intoxicated. His food ordinarily consisted of bread,